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H. H.

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. |
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09/171,399 10/16/98 SAND

M KINOSHITACAS

EXAMINER

IM22/0521

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EINSMANN, M

ART UNIT

PAPER NUMBER

1751

16

DATE MAILED:

05/21/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/171,399

Applicant(s)

Sano et al.

Examiner

Margaret Einsmann

Art Unit

1751



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on Apr 6, 2001.

2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 12, 13, 15, 19, and 20 is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) 12, 15, 19, and 20 is/are rejected.

7) ☒ Claim(s) 13 is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a) ☒ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15) ☒ Notice of References Cited (PTO-892)

18) ☐ Interview Summary (PTO-413) Paper No(s). _____

16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

19) ☐ Notice of Informal Patent Application (PTO-152)

17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____

20) ☐ Other:

Art Unit: 1751

DETAILED ACTION

This action is in response to the amendment filed 4/6/2001. Claims 10, 11, 16-18 have been canceled accordingly. Claim 12 has been amended. The substitute specification has been entered.

Double Patenting

The provisional double patenting rejection of claims 12 and 14 over claims 6 and 7 of copending 09/189,958 has been mooted by applicant's amendments to the claims.

Claim Rejections - 35 USC § 102

1. The rejection of claims 12-13, 15 and 20 under 35 U.S.C. 102(b) and (e) as being anticipated by Yamada et al., US 5,622,531 is withdrawn as there is no evidence that a polymerization is taking place on the surface of the fiber.
2. The rejection of claims 12, 13, 15, 19 and 20 under 35 U.S.C. 102(b) as being anticipated by Kimura et. al., US 5,385,836 is withdrawn due to applicant's arguments that there is no teaching of polymerization or a polymerization initiator.

Art Unit: 1751

3. The rejection of claims 12, 15, 19 and 20 under 35 U.S.C. 102(b) as being anticipated by Otoi et al., JP 4-100976 (English translation) is withdrawn due to applicant's arguments that the salts in the composition do not function as polymerization initiators.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 12 and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 12 recites the limitation "the improvement is characterized" " in lines 3 and 4.

There is insufficient antecedent basis for this limitation in the claim.

6. Claim 13 recites the limitation "reaction product of a" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 1751

8. Claims 12, 15, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shepler et al, US 3,651,210. Surface treatment chemicals, or chemicals that form a coating composition are taught that comprise a reactive synthetic emulsion and a protein, See abstract. Soluble proteins are used, which are selected from vegetable proteins including soya flour, animal proteins such as fish protein and casein. See col 4 lines 48-50. The reactive modifiers are ethlenically unsaturated compounds as listed in col 4 lines 9 et seq. The polymerization catalysts are listed in col 5 lines 40 et seq and include ammonium persulfate, azo-bisisobutyronitrile and cumene peroxide. Noting example 1, the polymerization was carried out with potassium persulfate, which is a peroxide generating compound, as the polymerization initiator. Thus example 1 contains all of the components of instant claims; water soluble protein, reactive modifier and polymerization initiator. the modifiers listed in col 4 contain vinyl groups, amine groups and carboxylic groups. The reference does not specifically disclose fibroin, collagen or wool as the protein. However, one skilled in the art would be aware that those are species of the vegetable and animal proteins disclosed in the col 4 lines 48-50. The reference does not give a molecular weight range of the protein. It would have been obvious to the man having skill in the art that this reaction could be used with soluble proteins within the weight range as claimed as it is taught as being useful with all soluble vegetable and animal proteins.

9. Claims 12, 15, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Denzinger et al., WO95/31576. The US equivalent, 5,714,560, will be cited in the narrative that follows. Chemicals for tanning, that is surface treating chemicals, are formed of a polymerization

Art Unit: 1751

product of protein and ethlenically unsaturated monomers in the presence of a polymerization initiator. See abstract. Proteins are selected from the group in col 4 lines 28 et seq. Included in the list are wool, collagen and fibrinogen (which forms fibroin) as in instant claim 15. They are converted to soluble form by hydrolysis, acid, enzymes etc. Col 4 lines 50 et seq. This implies that they include, or are exclusively, low molecular weight proteins. The list of polymerization initiators beginning in col 5 line 61 includes peroxides, metal salts and azo compounds. The only limit of the instant claims missing is the claimed molecular weight. It would have been obvious to the man having ordinary skill in the art at the time the invention was made that this disclosure includes low molecular weight proteins as claimed because of the statement in col 4 lines 50 that the proteins are converted to soluble form, and the methods listed result in molecular weight reduction.

10. Claims 12, 15, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kroner et al., US 5,260,396. Graft polymers of a water soluble protein, including collagen, wool and fibrinogen which have been formed into soluble form by methods including acid hydrolysis or enzyme treatment are reacted with ethlenically unsaturated monomers in the presence of polymerization initiators which are peroxide compounds, azo compounds or heavy metal salts. see cols 3 and 4. The reference differs from the instant claims because it does not give a molecular weight range of the starting protein in the composition and process. It would have been obvious to the skilled artisan that this reference uses low molecular weight polymers since the statement in

Art Unit: 1751

col 3 lines that the proteins are digested, hydrolyzed etc to form soluble proteins inherently results in molecular weight reduction.

11. Claim 13 allowable over the art of record.

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

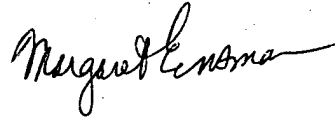
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Margaret Einsmann whose telephone number is (703) 308-3826. The

Art Unit: 1751

examiner can normally be reached on Monday to Thursday and alternate Fridays from 7:00 A.M. to 4:30 P.M. The fax phone number for this Technology Center is (703) 305-3599

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661.



MARGARET EINSMANN

PRIMARY EXAMINER 1751

May 17, 2001